



**UNITED STATES DEPARTMENT OF COMMERCE  
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/855,905	05/14/97	YAMANAKA	M 443-17

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EXAMINER

KRUER, K

ART UNIT

PAPER NUMBER

1773

DATE MAILED:

11/02/98

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.  
08/855,905

Applicant(s)  
Yamanaka, Koyama, And Ueda

Examiner  
Kevin Krueer

Group Art Unit  
1773



☒ Responsive to communication(s) filed on May 14, 1997

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 1-20 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 1-20 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been

☒ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 4

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

Art Unit: 1773

### DETAILED ACTION

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
2. The disclosure is objected to because of the following informalities: on page 4, 9 lines from the bottom, the word "are" should read "is." Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takashi et al. (Pat. No. 4,318,950) and further in view of European Patent 0 613 919 A1 (aka Ueda).

Takashi et al. teaches that it is well known in the art to make synthetic papers comprising oriented thermoplastic laminates. Furthermore, inorganic fillers are often added to the thermoplastic resin prior to stretching in order to roughen the surface and render the film receptive to pencil, pen, and crayon markings (col 1, lines 19-46). It is also well known in the art that antistatic properties are desired in synthetic paper products. However, Takashi does not teach the polyolefin composition claimed by the applicant. However, Ueda teaches the

Art Unit: 1773

composition of the claimed polyolefin sheet. Thus, it would have been obvious to one skilled in the synthetic paper art to utilize the composition taught in Ueda because such a composition would improve the antistatic properties of the paper product.

Takashi teaches that suitable inorganic fillers which may be added to the polypropylene composition include calcium carbonate, silica, talc, titanium oxide, and clay (col 7, lines 1-4). The composition may contain from 0.5%-65% by weight of a fine inorganic filler (col 7, lines 8-10). The polypropylene composition containing inorganic filler is uniaxially oriented at least 2.5 times the original dimension, and possibly as high as 16 times the original dimension (col 5, lines 8-17). It is well known in the art to orient the film at a temperature lower than the melting point of the polypropylene resin. The surface of the stretched resin film may be treated with corona discharge treatment at a voltage of 3,000 to 30,000 volts and a current of 0.5 to 5 amperes (col 4, lines 41-51). The polypropylene composition may be laminated to a biaxially oriented backing film layer (abstract). The synthetic paper may have a total thickness of 30-140um, with the sheet comprised of the claimed polypropylene composition having a thickness of 10-100um (Table IV, col 14). Takashi also teaches that the desired void content is between 10-65% (claim 1; equation is in Table VII, col 17).

Ueda teaches a antistatic polypropylene composition (page 9, lines 34-42) comprising:

- component A: a polyolefin resin (55-95% by weight of the total composition)
- component B: a polyetheresteramide (3-40% by weight)
- component C: a polyamide resin (1-20% by weight), and

Art Unit: 1773

component D: a compatilizer (0.2-20%)

The polyetheresteramide is derived from a polyamide oligomer having a number average molecular weight of 300 to 3,000 and which contains carboxyl groups at each end and a alkylene oxide adduct of bisphenol having a number average molecular weight of from 300 to 5,000 (claim 1). For example, the polyetheresteramide can be synthesized from an  $\epsilon$ -caprolactam, an ethylene oxide adduct of bisphenol A, and adipic acid (page 12, example 1). Furthermore, 12-aminodecanoic acid may be used as the polyamide oligomer in place of the  $\epsilon$ -caprolactam (page 3, lines 21-29). Ueda teaches that polyetheresteramides having aromatic rings as component B have a reduced viscosity of from 0.5 to 4.0 in 0.5 wt% m-cresol solution at 25°C (page 4, lines 21-24).

Ueda teaches that the polyamide of component C is selected from the group consisting of nylon 66, nylon 69, nylon 601, nylon 612, nylon 6, nylon 11, nylon 12, and nylon 46 (page 5, lines 21-22). Preferably the polyamide resin has a reduced viscosity of from 0.8 to 5 in 97% sulfuric acid (concentration 1g/100ml) at 30°C (page 5, lines 22-25).

Preferable compatilizers when polyolefin resins are used as the thermoplastic resins are (a) an acid modified low molecular weight polyolefin having a number average molecular weight of from 800-25, 00 and an acid number of from 5-150, (b) a hydroxy modified low molecular weight polyolefin having a number average molecular weight of from 800 to 25,000 and a hydroxy value of from 5 to 150, and c) an ester modified low molecular weight polyolefin obtained by partly or wholly esterifying an acid modified low molecular weight polyolefin with a polyoxyalkylene

Art Unit: 1773

compound and having a number average molecular weight of from 1,000-28,000 (page 7, lines 21-29). Such a compatilizer may be obtained by reacting a low molecular weight polyolefin having a number average molecular weight from 700 to 20,000 with an unsaturated acid selected from methacrylic acid, maleic acid, maleic anhydride, fumaric acid, itaconic acid, itaconic anhydride, and citraconic anhydride (page 7, lines 30-39). The resulting product can be reacted further a) with an aliphatic amine selected from monomethanolamine, monoisopropanolamine, diethanolamine, and diisopropanolamine (page 7, lines 48-52), or b) by esterifying part or all of the carboxylic acid moieties of the modified low molecular weight polyolefin with a hydroxylated polyoxylalkylene compound (page 7, line 53 - page 8, line 9).

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Toyoda (Pat. No. 3,765,999), Inoue et al. (Pat. No. 5,489,471), and Takashi et al. (Pat. No. 4,075,050) teach synthetic paper laminates. Ohkawachi et. Al. (Pat. No. 5,677,005) teaches that synthetic paper is usually obtained by stretching the film at a temperature lower than the melting point of the polypropylene. Ueda et al. (Pat. No. 5,652,326) teaches the antistatic composition comprised of an polyetheresteramide.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin R. Kruer whose telephone number is (703) 305-0025. The examiner can normally be reached on Monday-Friday from 7:30a.m. to 4:30p.m.

Application/Control Number: 08/855905

Page 6

Art Unit: 1773

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